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The information, recommendations and illustrative labels contained in this Manual have been compiled from sources believed to be reliable and to represent the best current opinion on the subject. No warranty, guarantee or representation is made by the Association as to the absolute correctness or sufficiency of any information, recommendation or illustrative label contained in this Manual, and Manufacturing Chemists' Association assumes no responsibility in connection therewith; nor can it be assumed that all warnings and precautionary measures are contained in this Manual, or that other or additional measures may not be required under particular or exceptional conditions or circumstances.

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WARNING LABELS

A Guide for the Preparation of Warning
Labels for Hazardous Chemicals

INTRODUCTION

THE DEVELOPMENT of new chemical products and the introduction of chemical processes into ever-widening fields have accentuated the need for furnishing appropriate information in those cases where there are hazards requiring special precautions. Precautionary information should, so far as practicable, reach every person using, handling, or storing chemicals. The most practical means for the seller to disseminate this information appears to be by warning labels affixed to containers of hazardous chemicals, bearing appropriate precautionary statements expressed as simply and briefly as circumstances permit. Such labels, however, cannot take the place of the education of employees regarding chemical hazards and the use of safety clothing and equipment which are and must remain the direct responsibility of employers.

Many chemicals present no hazards in normal handling and storage and for these products no precautionary statements are necessary on the label.

To achieve uniform and more adequate labeling of hazardous chemical products, the Labels and Precautionary Information (LAPI) Committee of the Manufacturing Chemists' Association, Inc., has prepared this Manual for the benefit and guidance of its members. Part I sets forth principles for the preparation of warning labels. Part II contains suggested warning labels for specific chemicals illustrative of the application of these principles. Part III contains suggested warning labels showing the application of the principles of Part I to a group of chemical products used in the economic poisons field.

Individual statutes, regulations or ordinances may require that particular information be included in a label or that a specific label

relating to characteristics of the container as well as those of its contents, and is discussed separately under *Container Handling and Storage* instructions, page 18.

- (6) The inclusion of the word "POISON" and the skull and crossbones on a label should be limited to those cases where the product is a poison according to a definite toxicity standard* or where such use is prescribed by law. When used, this legend should be in addition to the other label warnings and should not take the place of the signal words DANGER!, WARNING!, and CAUTION! which are designed to show the relative degree of hazard.
- (7) A non-descriptive code designation or trade name should not be used as the only identification of a hazardous chemical. If the complete chemical name is not shown, the label should clearly state the type of chemical, e.g., "corrosive acid," "lead compound."
- (8) Warning statements should be located prominently on the label and should be printed in easily legible type which is in contrast by typography, layout, or color with other printed matter on the label. The label should be affixed firmly to and in a conspicuous place on the container.

Preparation of Warning Labels

In preparing a warning label for a hazardous chemical, all *General Principles* should be kept in mind. As outlined in General Principle No. 5, the following information should be considered for inclusion on the label:

- A. NAME OF PRODUCT This is important information for the safety of handlers and users. It is preferable that the chemical name of the product be used. The recommendations of the American Chemical Society for nomenclature should be followed. Trade names may be used in addition to chemical names. A non-descriptive code designation or trade name should not be used as the only identification of a hazardous chemical. If the complete chemical name is not shown, the label should at least clearly state the type of chemical, e.g., "corrosive acid," "lead compound."
- B. SIGNAL WORD This word is intended to draw attention to the presence of hazard, and to indicate the degree of severity. The signal words recommended are, in the order of diminishing severity of hazard:

*See definitions page 13.

- (1) DANGER!
- (2) WARNING!
- (3) CAUTION!

Degree of severity can be expressed only in relative terms. "Danger" is the strongest of the three words and should be used for those products presenting the most serious hazards. "Caution" is recommended for those compounds presenting the least serious hazards. "Warning" is intermediate between "Danger" and "Caution." Reference to the illustrative labels in Part II of this Manual will help in the selection of the proper signal word.

C. STATEMENT OF HAZARDS This statement should give notice of the hazards that are present in connection with the customary or reasonably anticipated handling or use of the product. Examples are:

CAUSES BURNS VAPOR EXTREMELY HAZARDOUS

Many chemical products will present more than one type of hazard, in which case appropriate statements for each significant type should be included on the label.

While any compound may be hazardous if improperly used, it is impractical to cover every possible contingency on a label. Efforts should be directed toward giving notice of the significant hazards. In some instances where a mild caution is indicated, the statement of hazards may be omitted and adequate information provided by the signal word "Caution" followed by the statement of precautionary measures.

- D. PRECAUTIONARY MEASURES These instructions are intended to supplement the statement of hazards by briefly setting forth measures to be taken to avoid injury or damage from stated hazards. Examples are:

Keep away from heat and open flame.
Avoid breathing dust.

Precautionary measures may be included for less serious hazards not considered of sufficient importance to require inclusion in the statement of hazards. In some instances, the omission of a precautionary statement may be justified where the measure to be followed is obvious from the statement of hazard. For example, "Do not take internally" is unnecessary when the statement of hazard contains the words, "May be fatal if swallowed."

E. INSTRUCTIONS IN CASE OF CONTACT OR EXPOSURE The primary purpose of a warning label is to *prevent* injury or damage. However, instructions in case of contact or exposure may be included in those instances where the results of contact or exposure are severe and immediate treatment is highly desirable, and where simple remedial measures may be taken safely by non-professional persons before medical assistance is available.

Instructions should be limited to recognized first aid procedures based on simple methods and commonly available materials. Instructions for strictly medical treatment should be omitted except when specifically required by law.

Because of the serious and lasting effects that may result from eye injuries, a recommendation to get medical attention should accompany any specific instructions directed to treatment of the eyes.

In certain instances simple remedial measures such as washing or removal of clothing may be included where they will serve to avoid serious injury following contact or exposure.

All precautionary information should appear on the label as a unit and should be printed in the order given above. The labels in Parts II and III illustrate suitable arrangements and indicate relative prominence that should be given to the individual statements. Such relative prominence may be achieved in a number of ways such as by variation in type size, color, or layout of the printed material.

Table I, on Page 16, is intended as a guide in the selection of precautionary statements for warning labels. Listed are classifications of materials according to the hazardous properties most frequently encountered in chemical products. Opposite each classification are given statements of hazard, precautionary measures and, in some cases, instructions in case of contact or exposure. It is important to recognize that chemicals can have inherent in them more than one of such hazardous properties, and that the label wording for such products should include an appropriate combination of the pertinent statements.

As each chemical product must be treated individually in the light of its own characteristics and customary or reasonably anticipated handling or use, there will be many instances in which the illustrative statements in Table I will not be applicable, either because they do not accurately express the degree of hazard or because they fail to cover the particular characteristics. In such cases, suitable statements should be chosen to fit the situation. The illustrative labels in Part II of this Manual may be helpful in the choice of appropriate wording.

Labels for Small Commercial Packages

The principles governing the preparation of warning labels discussed in Part I and the illustrative labels in Part II of this Manual have been developed primarily for bulk packages of chemicals intended for industrial use. The general principles apply, however, to chemicals packaged in small containers. These may include, among others, chemical products in retail packages intended for the ultimate consumer; highly purified chemicals intended for research, testing, or control; and chemicals intended for professional use such as in pharmacy.

As stated in the *General Principles* on page 2, each chemical product presents a distinct problem and must be treated individually in the light of its own characteristics. This same principle will apply to small containers. Small containers may present a problem of less available space for labeling purposes. Careful and selective shortening of warning statements for such containers may be in order if necessary to permit legibility, or if the wording on labels for the chemical in industrial packages is not applicable. Consideration should always be given to (1) the intended or reasonably anticipated handling or use of the particular product, (2) the training and experience of the expected user, and (3) the extent to which the hazard is modified by the size or type of container.

The following principles are recommended for condensation of suggested label wording where necessary or advisable:

- (1) Retain the *Signal Word*;
- (2) Retain the *Statement of Hazards*, shortened if necessary to a practical equivalent;
- (3) Consider omission of *Precautionary Measures* if they are clearly indicated or implied from the *Statement of Hazards* or can be clearly indicated or implied by revising the *Statement of Hazards*;
- (4) Consider omission of wording relating to hazards that may be less serious because of the particular characteristics of the package, the nature of the use, and the training and experience of the user. Care must be taken to include precautionary measures for any additional hazard which may be present as a result of such characteristics, use, or training and experience.
- (5) Care should be taken that labels prepared in accordance with the above principles include all information required by law (see footnote page 6).

Labels for Samples and for New Products for Investigational Use

Samples:

In general, the label for samples of a product already in commercial production should bear the same precautionary information that is on the commercial label.

Labels for samples of products not in commercial production should be prepared in accordance with the principles stated in the *Introduction and General Principles*.

New Products for Investigational Use:

Toxicological data should be obtained on any product before it is distributed. However, when new chemicals are being packaged and delivered for investigational use, certain exceptions for labeling samples of these chemicals may be necessary. The quantities of investigational products available for delivery are sometimes so small, and the usefulness of the chemical so uncertain, that complete chemical or toxicological studies are not practicable. Also the chemical may require packaging for and delivery to investigators for the purpose of obtaining the data necessary for adequate labeling. To cover such cases (and such cases only) the following guide is suggested for preparing labels during the period of investigation:

(NAME OR DESCRIPTION OF PRODUCT)

FOR INVESTIGATIONAL USE ONLY

SIGNAL WORD: STATEMENT OF KNOWN HAZARDS

Appropriate precautionary measures

Appropriate instructions in case of contact or exposure

IMPORTANT! The chemical, physical, and toxicological properties of this product have not been fully investigated and its handling or use may (be hazardous) (present additional hazards). Exercise due care.

Definitions

FLAMMABLE LIQUID¹—Any liquid which gives off flammable vapors (as determined by flash point from Tagliabue's open-cup tester, as used for test of burning oils) at or below a temperature of 80°F.

EXTREMELY FLAMMABLE LIQUID²—Any liquid which gives off flammable vapors (as determined by flash point from Tagliabue's open-cup tester, as used for test of burning oils) at or below a temperature of 20°F.

CORROSIVE² (Physiological)—An agent which in contact with living tissue will cause more or less severe destruction of tissue by chemical action. As used in warning labeling, the term "corrosive" refers to action on living tissue and should not be confused with action on inanimate surfaces such as metals, glass or wood.

IRRITANT² (Physiological)—An agent which in contact with living tissue will induce either immediately or after prolonged or repeated contact a more or less severe local tissue reaction not leading directly to destruction of tissue.

SENSITIZER² (Physiological)—A material which as ordinarily handled does not necessarily cause any discernible reaction in living tissue but which after initial or repeated contact with the tissue of some individuals may, at a later date, produce a prompt inflammatory reaction on contact, even in minute amounts, with the tissue of the same individuals.

DUST³—Solid particles generated by handling, crushing, grinding, rapid impact, detonation and decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, grain, etc. A dust does not tend to flocculate except under electrostatic forces; it does not diffuse in air but settles under the influence of gravity.

FUME³—Solid particles generated by condensation from the gaseous state, generally after volatilization from molten metals, etc., and often accompanied by a chemical reaction such as oxidation. A fume flocculates and sometimes coalesces.

MIST³—Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming and atomizing.

GAS²—A normally formless fluid which occupies the space of enclosure and which can be changed to the liquid or solid state by the effect of increased pressure or decreased temperature or both. A gas diffuses.

VAPOR²—The gaseous form of a substance which is normally in the solid or liquid state. A vapor diffuses.

POISON² Note: The true determination of the "poisonous" properties of a chemical or mixture of chemicals must be based on its effect on humans. The collection of adequate data from human experience is usually impossible. In the absence of such data it is desirable to establish for labeling purposes some arbitrary standards based on past experiences and some methods of testing which will permit the presumption of the possible hazards inherent in a given product. The use of laboratory animals for this purpose is now considered the most reliable method generally available when conducted under controlled conditions.

A poison is commonly understood to be a product, contact with which will lead to fatal results, usually in a short period of time. Earlier definitions have in most instances considered only oral intake. It is becoming more generally recognized, however, that other modes of contact or routes of entry, in particular inhalation and absorption through the skin, may have similar fatal effect. Any definition of poison should, therefore, include these three common routes of entry.

—A chemical or mixture of chemicals which falls within any of the following categories:

- (a) Produces death within 48 hours in half or more than half of a group of 10 or more laboratory white rats weighing 200-300 grams at a single dose of 50 milligrams or less per kilogram of body weight, when administered orally; or
- (b) Produces death within 48 hours in half or more than half of a group of 10 or more laboratory white rats weighing 200-300 grams, when inhaled continuously for a period of one hour or less at an atmospheric concentration of 2 milligrams or less per liter of gas, vapor, mist, or dust, provided such concentration is likely to be encountered by man when the chemical product is used in any reasonable foreseeable manner; or
- (c) Produces death within 48 hours in half or more than half of a group of 10 or more rabbits tested in a dosage of 200 milligrams or less per kilogram body weight, when administered by continuous contact with the bare skin for 24 hours or less.

If available data on human experience with any chemical in the above-named concentrations indicate results different from those

obtained on animals, the human data shall take precedence in determining whether the product falls within the definition of poison.

MIXTURE²—A physical commingling of two or more substances which may or may not bear a fixed proportion to one another and which have not reacted chemically with one another.

ECONOMIC POISON⁴—Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, fungi, weeds, and other forms of plant or animal life or viruses, except viruses on or in living man or other animals, which the Secretary (of Agriculture) shall declare to be a pest.

1. ICC definition. While the term "inflammable" has been used by the ICC the preferred form "flammable" is used in this Manual, and is approved by the ICC.
2. MCA definition.
3. As defined in Chapter II "Engineering Control of the Air Contamination of the Working Environment" (Allen D. Brandt, D.Sc.) page 198, "Manual of Industrial Hygiene," USPHS.
4. From Federal Insecticide, Fungicide and Rodenticide Act. It should be understood that there are laws, ordinances, and regulations in certain states which declare to be pests things which may not be so considered at present under the Federal Act.

TABLE 1

Products will be encountered that present hazards varying in kind or degree from those listed. Appropriate statements of hazards, precautionary measures and instructions in case of contact or exposure should be prepared on the basis of the properties of the product, following the pattern and general phraseology of the following table. Parenthetical words in the table express variations in kind or degree and are to be used where applicable.

Class of Hazard	Statements of Hazard Selection to be based on actual hazards of use and degree of hazard	Precautionary Measures Selection to be based on actual hazards of use and degree of hazard	Instructions in Case of Contact or Exposure Selection to be based on necessity for prompt action in order to avoid serious effects
I. Flammable Liquids (Flash points are determined by the Tagliabue Open-Cup Method) A. Flash point 20°F. or below B. Flash point above 20°F. to 80°F. inclusive	Extremely Flammable Flammable	Keep away from heat (sparks) and open flame. Keep container closed (and away from heat). Use with adequate ventilation.	
II. Oxidizing Agents	Strong Oxidant Contact with Combustible Material May Cause Fire	Store separately (away) from and avoid contact with combustible materials. Avoid contamination of clothing as it becomes dangerously flammable when dry. Keep container closed (and away from heat). Avoid contact with skin and eyes.	In case of contact, immediately flush skin or eyes with plenty of water for (at least) 15 minutes; for eyes, get medical attention. Wash clothing thoroughly at once. Sweep up spillage at once. Flush or absorb spillage with
III. Materials Giving Vapors Rapidly Toxic or Extremely Irritating on Exposure for a Short Time or to Low Concentrations	Vapor (Extremely) Hazardous (Irritating) Hazardous Liquid and Vapor (Gas under Pressure) Vapor Poisonous if Inhaled Vapor May Be Fatal if Inhaled Note: POISON* should be included if the product meets the definition of "poison" given on Page 14 or is required by law.	Do not breathe vapor. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Keep container closed (and away from heat). Have air line respirator or self-contained oxygen respirator available for emergency.	In case of contact, immediately flush skin or eyes with plenty of water for (at least) 15 minutes; for eyes, get medical attention. Remove and wash clothing before re-use. Note: If POISON* is used, add antidote statement as required.
IV. Materials Giving Vapors Hazardous from Prolonged or Repeated Exposures or Exposure to High Concentrations	Vapor Harmful Causes Irritation of Eyes, Nose, and Throat	Use only with adequate ventilation. Avoid (prolonged or repeated) breathing (of) vapor. Avoid contact with skin, eyes, and clothing. Keep container closed (and away from heat).	If spilled on clothing, remove and wash before re-use. In case of exposure to high concentrations, remove to fresh air.
V. Gases and Vapors Physiologically Inert	Gas (Vapor) Reduces Oxygen Available for Breathing Releases Heavy Gas (Vapor) which May Cause Suffocation	Use with adequate ventilation. Keep container closed. Do not enter storage areas unless adequately ventilated.	If affected by exposure, remove to fresh air. If breathing has stopped, apply artificial respiration.
VI. Materials in Dust Form Hazardous from Inhalation or Contact	Hazardous (Harmful) Dust Harmful if Inhaled Causes Irritation of Skin, Nose, and Throat	Do not breathe dust. Avoid breathing dust. Wash thoroughly before eating or smoking. Avoid contact with skin, eyes, and clothing.	In case of contact, immediately flush skin or eyes with plenty of water for (at least) 15 minutes; for eyes, get medical attention. Remove and wash clothing before re-use.
VII. Skin Irritants—Corrosive	Causes Severe Burns Causes Burns May Cause Burns	Do not get in eyes, on skin, on clothing. Avoid contact with skin, eyes, and clothing. Avoid exposure to (concentrated) vapor.	In case of contact, immediately flush skin or eyes with plenty of water for (at least) 15 minutes; for eyes, get medical attention. Remove and wash clothing before re-use.
VIII. Materials Causing Skin Irritation after Prolonged or Repeated Contact	Causes Skin Irritation May Cause Skin Irritation	Avoid (prolonged or repeated) contact with skin. Wash thoroughly before eating or smoking. Avoid exposure to (concentrated) vapor.	
IX. Materials Toxic through Skin Absorption	Hazardous Solid (Liquid) Rapidly Absorbed through Skin Absorbed through Skin Note: POISON* should be included if the product meets the definition of "poison" given on Page 14 or is required by law.	Do not get in eyes, on skin, on clothing. Avoid contact with skin, eyes, and clothing.	In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for (at least) 15 minutes; for eyes, get medical attention. Wash clothing before re-use. Note: If POISON* is used, add antidote statement as required.
X. Materials Toxic if Swallowed	Poisonous if Swallowed May Be Fatal if Swallowed Harmful if Swallowed Note: POISON* should be included if the product meets the definition of "poison" given on Page 14 or is required by law.	Wash thoroughly before eating or smoking. Wash thoroughly after handling. Do not breathe dust (vapor). Avoid breathing dust (vapor). Do not take internally (only if statement of hazard does not make this clear).	Note: If POISON* is used, add antidote statement as required.

*Poison with Skull and Crossbones

*Poison with Skull and Crossbones

Container Handling and Storage

Care should always be exercised in handling and storing containers of hazardous chemicals and in removing the contents. The Container Committees of the Manufacturing Chemists' Association have recommended the general precautions given below for handling and storing certain classes of containers. Applicable phrases may be selected from these statements. These may be used either as separate labels or in combination with the warning labels given in Part II. Where the properties of the chemical require special or additional precautions, such instructions are indicated in some instances in conjunction with the individual label in Part II.

Metal Drum Handling and Storage (for liquids and semi-liquids)

- Keep plug up to prevent leakage.
- Keep drum out of sun and away from heat.
- Relieve internal pressure when received and at least weekly thereafter by slowly loosening plug. Retighten immediately.
- Never use pressure to empty.
- Keep lights, fire, and sparks away from drum openings.
- Drum must not be washed out or used for other purposes.
- Replace plug after each withdrawal and return with empty drum.
- In case of spillage, flush with plenty of water.

Glass Carboy Handling and Storage

- Before moving carboy be sure closure is securely fastened.
- Loosen closure carefully.
- Keep out of sun and away from heat.
- Never use pressure to empty.
- Completely drain carboy before returning.
- In case of spillage, flush with plenty of water.

Wooden Barrel Handling and Storage (for liquids and semi-liquids)

- Keep out of sun and away from heat.
- Store with bilge bung up.
- Never use pressure to empty.
- Drain completely.
- Keep barrel moist—shrinkage may cause leaks.
- In case of spillage, flush with plenty of water.

Cylinder Handling and Storage

- Keep away from heat.
- Do not store in sunlight.
- Never drop cylinders.
- Be sure connections are tight.
- ICC Regulations prohibit refilling cylinder without permission of owner.
- Have airline respirator or self-contained oxygen respirator available for emergency.

PART II

Illustrative Warning Labels for Industrial Chemicals

The warning labels in this section have been prepared to demonstrate the practical application of the principles in Part I to a number of chemical products intended for industrial use. The user should familiarize himself with Part I before adapting any of the label statements contained in Part II to his products. The chemicals were selected to illustrate labeling for the major types of hazards commonly encountered. Consequently the listing covers only a relatively few of the hazardous chemicals for which warning labels are necessary. In many cases these labels are applicable to other products some of which are listed with appropriate cross references.

The labels are based on the properties of the named chemicals; the presence of other substances, including impurities, may alter these properties and necessitate additional or different precautionary information.

General information regarding the handling and storage of containers is not included on these labels. This subject is discussed under the heading, "Container Handling and Storage," page 18.

First aid treatment is given for a few products only. Such information may be desirable on other products. Where "clothing" is mentioned in first aid instructions, it should be understood to mean *all* articles of clothing, including shoes, garters, and other accessories. Shoes are specifically named in some instructions, because of special hazards arising from absorption of the chemical by leather.

The United States Public Health Service has approved the text of the warning labels shown in this section for the following chemicals covered by labeling agreements between the Surgeon General and manufacturers of such products:

Methanol	Chlorinated Diphenyls
Carbon Disulfide	Chlorinated Diphenyl Oxides
Aniline Oil	Carbon Tetrachloride and similar
Benzene	volatile chlorinated
Chlorinated Naphthalenes	liquid hydrocarbons

The notation, "MCA Chemical Safety Data Sheet available," appearing with certain labels in this section refers to Data Sheets pub-

lished by the Manufacturing Chemists' Association, Inc. These publications contain detailed information on the chemical, physical, and toxicological properties of the product, as well as information on shipping containers, labeling, storage, handling and protective equipment. Prices and a complete list of available Data Sheets may be obtained from the Association.

The warning labels suggested in this Manual should be used in addition to, or in combination with, any label required by law.

ACETALDEHYDE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid prolonged breathing of vapor.

Chill thoroughly before opening.

ACETIC ACID, GLACIAL

DANGER! CAUSES SEVERE BURNS

Do not get liquid or vapor in eyes, on skin, on clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

*Glacial Acetic Acid freezes at 62°F., forming hard lumps (which may break carboy when moved).

*Store in area maintained above 62°F.

*If frozen, thaw by carefully moving carboy to warm area.

ACETIC ACID, 80%

DANGER! CAUSES SEVERE BURNS

Do not get liquid or vapor in eyes, on skin, on clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

ACETIC ACID, 56%—70%

WARNING! MAY CAUSE BURNS

Avoid contact with skin, eyes, and clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

*Addition to "Container Handling and Storage," p. 18.

Container Handling and Storage

Care should always be exercised in handling and storing containers of hazardous chemicals and in removing the contents. The Container Committees of the Manufacturing Chemists' Association have recommended the general precautions given below for handling and storing certain classes of containers. Applicable phrases may be selected from these statements. These may be used either as separate labels or in combination with the warning labels given in Part II. Where the properties of the chemical require special or additional precautions, such instructions are indicated in some instances in conjunction with the individual label in Part II.

Metal Drum Handling and Storage (for liquids and semi-liquids)

- Keep plug up to prevent leakage.
- Keep drum out of sun and away from heat.
- Relieve internal pressure when received and at least weekly thereafter by slowly loosening plug. Retighten immediately.
- Never use pressure to empty.
- Keep lights, fire, and sparks away from drum openings.
- Drum must not be washed out or used for other purposes.
- Replace plug after each withdrawal and return with empty drum.
- In case of spillage, flush with plenty of water.

Glass Carboy Handling and Storage

- Before moving carboy be sure closure is securely fastened.
- Loosen closure carefully.
- Keep out of sun and away from heat.
- Never use pressure to empty.
- Completely drain carboy before returning.
- In case of spillage, flush with plenty of water.

Wooden Barrel Handling and Storage (for liquids and semi-liquids)

- Keep out of sun and away from heat.
- Store with bilge bung up.
- Never use pressure to empty.
- Drain completely.
- Keep barrel moist—shrinkage may cause leaks.
- In case of spillage, flush with plenty of water.

Cylinder Handling and Storage

- Keep away from heat.
- Do not store in sunlight.
- Never drop cylinders.
- Be sure connections are tight.
- ICC Regulations prohibit refilling cylinder without permission of owner.
- Have airline respirator or self-contained oxygen respirator available for emergency.

PART II

Illustrative Warning Labels for Industrial Chemicals

The warning labels in this section have been prepared to demonstrate the practical application of the principles in Part I to a number of chemical products intended for industrial use. The user should familiarize himself with Part I before adapting any of the label statements contained in Part II to his products. The chemicals were selected to illustrate labeling for the major types of hazards commonly encountered. Consequently the listing covers only a relatively few of the hazardous chemicals for which warning labels are necessary. In many cases these labels are applicable to other products some of which are listed with appropriate cross references.

The labels are based on the properties of the named chemicals; the presence of other substances, including impurities, may alter these properties and necessitate additional or different precautionary information.

General information regarding the handling and storage of containers is not included on these labels. This subject is discussed under the heading, "Container Handling and Storage," page 18.

First aid treatment is given for a few products only. Such information may be desirable on other products. Where "clothing" is mentioned in first aid instructions, it should be understood to mean *all* articles of clothing, including shoes, garters, and other accessories. Shoes are specifically named in some instructions, because of special hazards arising from absorption of the chemical by leather.

The United States Public Health Service has approved the text of the warning labels shown in this section for the following chemicals covered by labeling agreements between the Surgeon General and manufacturers of such products:

Methanol	Chlorinated Diphenyls
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Benzene	volatile chlorinated
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The notation, "MCA Chemical Safety Data Sheet available," appearing with certain labels in this section refers to Data Sheets pub-

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The warning labels suggested in this Manual should be used in addition to, or in combination with, any label required by law.

ACETALDEHYDE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid prolonged breathing of vapor.

Chill thoroughly before opening.

ACETIC ACID, GLACIAL

DANGER! CAUSES SEVERE BURNS

Do not get liquid or vapor in eyes, on skin, on clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

*Glacial Acetic Acid freezes at 62°F., forming hard lumps (which may break carboy when moved).

*Store in area maintained above 62°F.

*If frozen, thaw by carefully moving carboy to warm area.

ACETIC ACID, 80%

DANGER! CAUSES SEVERE BURNS

Do not get liquid or vapor in eyes, on skin, on clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

ACETIC ACID, 56%—70%

WARNING! MAY CAUSE BURNS

Avoid contact with skin, eyes, and clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

*Addition to "Container Handling and Storage," p. 18.

ACETIC ACID, 28%

CAUTION! MAY CAUSE BURNS

Avoid contact with skin, eyes, and clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

ACETIC ANHYDRIDE

**WARNING! CAUSES BURNS
VAPOR HARMFUL**

Avoid contact of liquid or vapor with skin, eyes, and clothing.
Avoid breathing vapor.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

MCA Chemical Safety Data Sheet available

ACETONE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged or repeated contact with skin.

ACETYL CHLORIDE

**DANGER! FLAMMABLE
CAUSES SEVERE BURNS**

Keep away from heat and open flame.
Keep container closed.
Do not get in eyes, on skin, on clothing.
Avoid exposure to concentrated vapor.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Do not allow water to get into container.

ACRYLONITRILE

**DANGER! VAPOR HAZARDOUS
FLAMMABLE**

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
Use with adequate ventilation.
Keep away from heat and open flame.
Keep container closed.

 **POISON** 
First Aid Treatment—Antidote

(Use same first aid treatment as recommended for CYANIDES, INORGANIC)

MCA Chemical Safety Data Sheet available

ALLYL ALCOHOL

**DANGER! RAPIDLY ABSORBED THROUGH SKIN
VAPOR EXTREMELY HAZARDOUS
FLAMMABLE**

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Keep away from heat and open flame.
Keep container closed.
Do not take internally.
In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

ALLYL CHLORIDE

**DANGER! VAPOR HARMFUL
FLAMMABLE**

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Keep away from heat and open flame.
Keep container closed.

AMMONIA, ANHYDROUS

WARNING! HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE
LIQUID CAUSES BURNS
VAPOR EXTREMELY IRRITATING

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician at once in case of burns, especially to the eyes, nose, and throat, or if the patient is unconscious.

MCA Chemical Safety Data Sheet available

AMMONIA, AQUA—See AMMONIUM HYDROXIDE

AMMONIUM DICHROMATE

WARNING! FLAMMABLE
HARMFUL DUST
MAY CAUSE RASH OR EXTERNAL ULCERS

Keep away from heat, sparks, and open flame.
Keep container closed.
Avoid contact with skin and eyes.
Avoid breathing dust or solution spray.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Wash clothing before re-use.
Use fresh clothing daily. Take hot shower after work using plenty of soap.

AMMONIUM HYDROXIDE

WARNING! LIQUID CAUSES BURNS
VAPOR EXTREMELY IRRITATING

Avoid breathing vapor.
Avoid contact with skin, eyes, and clothing.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

MCA Chemical Safety Data Sheet available

iso-AMYL ACETATE

CAUTION!

Avoid prolonged breathing of vapor.
Use with adequate ventilation.
Avoid prolonged or repeated contact with skin.

ANILINE

DANGER! RAPIDLY ABSORBED THROUGH SKIN
VAPOR HAZARDOUS

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
Use only with adequate ventilation.
In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.



POISON



MCA Chemical Safety Data Sheet available

ortho-ANISIDINE

WARNING! ABSORBED THROUGH SKIN
VAPOR HAZARDOUS

Avoid contact with skin and eyes.
Avoid breathing vapor.
In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

para-ANISIDINE

WARNING! ABSORBED THROUGH SKIN
VAPOR HAZARDOUS

Avoid contact with skin and eyes.
Avoid breathing dust or vapor.
In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

ANTIMONY TRICHLORIDE

**DANGER! CAUSES SEVERE BURNS
VAPOR HAZARDOUS**

Do not get in eyes, on skin, on clothing.

Do not breathe vapor.

Keep container closed.

In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

ARSENIC TRICHLORIDE

**DANGER! CAUSES SEVERE BURNS
VAPOR EXTREMELY HAZARDOUS**

Do not get in eyes, on skin, on clothing.

Do not breathe vapor.

Keep container closed.

In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.



POISON



BARIUM CHLORIDE

WARNING! MAY BE FATAL IF SWALLOWED

Avoid inhalation of dust.

BARIUM NITRATE

**WARNING! CONTACT WITH COMBUSTIBLE MATERIAL MAY
CAUSE FIRE
MAY BE FATAL IF SWALLOWED**

Keep container closed and away from combustible material and heat.

Avoid contact with skin and eyes.

Sweep up and carefully remove spilled material.

BENZENE (BENZOL)

**DANGER! EXTREMELY FLAMMABLE
VAPOR HARMFUL—POISON**

Keep away from heat, sparks, and open flame.

Keep container closed.

Use only with adequate ventilation.

Avoid prolonged or repeated breathing of vapor.

Avoid prolonged or repeated contact with skin.

MCA Chemical Safety Data Sheet available

BENZIDINE

**WARNING! HAZARDOUS SOLID AND VAPOR
RAPIDLY ABSORBED THROUGH SKIN**

Avoid breathing dust or vapor.

Avoid contact with skin and eyes.

In case of contact, immediately wash skin with soap and plenty of water; flush eyes with plenty of water for at least 15 minutes and get medical attention.

BENZOYL CHLORIDE

**WARNING! CAUSES BURNS
VAPOR IRRITATING**

Avoid contact with skin and eyes.

Avoid breathing vapor.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

BENZYL CHLORIDE

WARNING! CAUSES BURNS

Avoid contact with skin, eyes, and clothing.

Avoid breathing vapor.

In case of contact, immediately wash skin with soap and plenty of water; flush eyes with water for at least 15 minutes and get medical attention.

**For Carboys or Nickel Drums:*

Do not transfer to ordinary metal containers without first adding stabilizer. Get instructions from manufacturer.

**For Steel Drums:*

This product contains a stabilizer. Before transferring, get instructions from manufacturer.

BROMINE

DANGER! CAUSES SEVERE BURNS VAPOR HAZARDOUS

Do not get in eyes, on skin, on clothing.

Do not breathe vapor.

In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

n-BUTYL ACETATE—Same label as iso-AMYL ACETATE

BUTYL ALCOHOL (normal or secondary)— Same label as iso-AMYL ACETATE

*Addition to "Container Handling and Storage," p. 18.

tert.-BUTYL ALCOHOL

WARNING! FLAMMABLE

Keep away from heat and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid prolonged breathing of vapor.

Avoid prolonged or repeated contact with skin.

n-BUTYLAMINE

WARNING! FLAMMABLE MAY CAUSE SKIN IRRITATION

Keep away from heat and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid exposure to vapor.

Avoid contact with skin and eyes.

In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

para-tert.-BUTYL CATECHOL

WARNING! CAUSES SKIN IRRITATION CAUSES BURNS WHEN MOIST

Do not get in eyes, on skin, on clothing.

In case of contact, immediately wash skin with soap and plenty of water; flush eyes with water for at least 15 minutes and get medical attention.

n-BUTYL CHLORIDE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.

Keep container closed.

Use only with adequate ventilation.

Avoid prolonged breathing of vapor.

Avoid prolonged or repeated contact with skin.

n-BUTYL ETHER

CAUTION! TENDS TO FORM EXPLOSIVE PEROXIDES ESPECIALLY WHEN ANHYDROUS

Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not allow to evaporate to near dryness. Addition of water or appropriate reducing agents will lessen peroxide formation.

BUTYRALDEHYDE—Same label as ETHYL ACETATE

CALCIUM CYANIDE

DANGER! LIBERATES POISONOUS GAS

Avoid breathing gas or dust.
Avoid contact with skin.
Keep away from acids.
Store away from feed or food products.
Keep container tightly closed and dry.



First Aid Treatment—Antidote

(Use same first aid treatment as recommended for CYANIDES, INORGANIC)

CARBON DIOXIDE, SOLID ("DRY ICE")

**WARNING! EXTREMELY COLD (109°F. below zero)
CAUSES SEVERE BURNS
LIBERATES HEAVY GAS WHICH MAY CAUSE
SUFFOCATION**

Do not get on skin or hands.
Do not taste.
Do not put in stoppered or closed containers.
Do not enter places where used or stored until adequately ventilated.

CARBON DISULFIDE

**DANGER! EXTREMELY FLAMMABLE
VAPOR HARMFUL
HIGHLY VOLATILE**

Keep away from fire, sparks, or heated surfaces.
Store in cool place and keep container closed.
Use only with adequate ventilation.
Avoid breathing vapor.
Avoid contact with skin and eyes.



MCA Chemical Safety Data Sheet available

CARBON TETRACHLORIDE

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid breathing vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

MCA Chemical Safety Data Sheet available

CAUSTIC SODA—See SODIUM HYDROXIDE

CAUSTIC POTASH—See POTASSIUM HYDROXIDE

CHLORAL

**DANGER! EXTREMELY HAZARDOUS LIQUID AND VAPOR
INHALATION MAY CAUSE DELAYED FATAL
LUNG INJURY**

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Use only with adequate ventilation.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
In case of inhalation or suspicion of inhalation, remove patient at once to fresh air and call physician. Keep patient absolutely quiet and start oxygen inhalation through suitable equipment.

CHLORINATED DIPHENYL, MONO-, DI-, or TRI-
Same label as **CHLORINATED NAPHTHALENE**

CHLORINATED DIPHENYL OXIDE, MONO-, DI-, or TRI-
Same label as **CHLORINATED NAPHTHALENE**

**CHLORINATED NAPHTHALENE (For TRI- and HIGHER
CHLORINATED NAPHTHALENES)**

CAUTION!

Avoid repeated contact with skin.
Avoid repeated inhalation of fumes and dust.

CHLORINE

DANGER! HAZARDOUS LIQUID AND GAS UNDER PRESSURE

Avoid breathing air containing this gas.
Avoid contact with skin or eyes.
Do not heat cylinders.
Have available emergency gas masks approved by U. S. Bureau
of Mines for Chlorine service.
Handle and use only in accordance with practice recommended
by the chlorine producer.
In case of exposure, remove patient to fresh air, keep him warm
and quiet, and send for a physician.

CHLOROBENZENE (MONOCHLOROBENZENE)

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid contact with skin and clothing.
Avoid prolonged breathing of vapor.

CHLOROFORM

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid breathing vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

**CHLOROPHENOL (MONOCHLOROPHENOL) (ortho ,
meta, or para)—Same label as PHENOL**

CHLOROSULFONIC ACID

DANGER! CAUSES SEVERE BURNS

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
In case of contact, immediately flush skin or eyes with plenty of
water for at least 15 minutes; for eyes, get medical attention.
Do not allow water to get into container.

MCA Chemical Safety Data Sheet available

CHLOROTOLUENE (MONOCHLOROTOLUENE)

CAUTION! VAPOR HARMFUL

Use with adequate ventilation.
Avoid prolonged breathing of vapor.

CHROMIC ACID

**DANGER! CONTACT WITH COMBUSTIBLE MATERIAL MAY
CAUSE FIRE
CAUSES SEVERE BURNS**

Keep container closed.
Avoid contact with skin and eyes.
Avoid breathing dust or solution spray.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Wash clothing before re-use.
Use fresh clothing daily. Take hot shower after work using plenty of soap.

CREOSOTE OIL (COAL TAR CREOSOTE)

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid prolonged or repeated contact with skin.
Avoid prolonged breathing of vapor.
Use with adequate ventilation.

CRESOL (CRESYLIC ACID)

**DANGER! RAPIDLY ABSORBED THROUGH SKIN
CAUSES SEVERE BURNS**

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
Do not take internally.
In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

CYANIDES, INORGANIC (Excluding HYDROCYANIC ACID and CALCIUM CYANIDE)

(NAME OF CYANIDE)

DANGER! CONTACT WITH ACID LIBERATES POISONOUS GAS

Avoid breathing gas or dust.
Avoid contact with skin.
Keep away from feed or food products.
Keep container closed and store in a dry place.



First Aid Treatment—Antidote

Carry patient to fresh air.
Have him lie down.
Remove contaminated clothing but keep patient warm.
Start treatment immediately.
Call a physician.

If Cyanide Gas is Inhaled: Break an amyl nitrite pearl in a cloth and hold lightly under nose for 15 seconds. Repeat 5 times at about 15-second intervals. Use artificial respiration if breathing has stopped.

If Cyanide is Swallowed: Break an amyl nitrite pearl in a cloth and hold lightly under nose for 15 seconds. If patient is conscious or when consciousness returns give emetic (1 tablespoonful of salt to each glass of warm water) and repeat until vomit fluid is clear. Repeat inhalation of amyl nitrite 5 times at about 15-second intervals. Use artificial respiration if breathing has stopped.

Never give anything by mouth to an unconscious person.

MCA Chemical Safety Data Sheet available for SODIUM CYANIDE

CYCLOHEXANE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.

CYCLOHEXANOL

CAUTION! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

CYCLOHEXANONE—Same label as CYCLOHEXANOL

DIACETONE ALCOHOL— Same label as ETHYL ACETATE

DICHLOROETHYLENE

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged or repeated breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

DICHLOROETHYL ETHER

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid prolonged or repeated breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

2,4-DICHLOROPHENOL

WARNING! MAY CAUSE BURNS

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Do not take internally.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Remove and wash clothing before re-use.

DIETHYLAMINE

DANGER! EXTREMELY FLAMMABLE MAY CAUSE SKIN IRRITATION

Keep away from heat, sparks, and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid exposure to vapor.
Avoid contact with skin and eyes.
In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

DIETHYLENETRIAMINE—Same label as MORPHOLINE

DIISOBUTYL KETONE— Same label as iso-AMYL ACETATE

DIMETHYLANILINE—Same label as ANILINE

DIMETHYL SULFATE

DANGER! EXTREMELY HAZARDOUS LIQUID AND VAPOR CAUSES SEVERE BURNS

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Use only with adequate ventilation.
Wear goggles and rubber gloves when handling.
In case of spillage, cover immediately with dry soda ash.



First Aid Treatment—Antidote

Call physician immediately

Eyes: Immediately flush with water for at least 15 minutes.
Skin: Immediately remove all contaminated clothing and flush skin with water for at least 15 minutes.
Inhalation: If breathing becomes difficult, start oxygen inhalation through suitable equipment.

MCA Chemical Safety Data Sheet available

DIOXANE (1,4-DIETHYLENE DIOXIDE)

WARNING! FLAMMABLE
VAPOR HARMFUL
TENDS TO FORM EXPLOSIVE PEROXIDES ESPECIALLY
WHEN ANHYDROUS

Keep away from heat and open flame.
Keep container closed.
Use only with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not allow to evaporate to near dryness. Addition of water or appropriate reducing agents will lessen peroxide formation.

DIPROPYL KETONE—Same label as iso-AMYL ACETATE

ETHYL ACETATE

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

ETHYL BROMIDE

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid prolonged breathing of vapor.
Keep container closed, out of sun, and away from heat.

ETHYL CHLORIDE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.
Use with adequate ventilation.
Keep container closed, out of sun, and away from heat.

ETHYLENE CHLOROHYDRIN (ANHYDROUS or 38 %)

DANGER! EXTREMELY HAZARDOUS LIQUID AND VAPOR
MAY BE FATAL IF INHALED, SWALLOWED OR
ABSORBED THROUGH SKIN

Do not get in eyes, on skin, on clothing. (Ordinary rubber gloves will not prevent skin absorption.)
Do not breathe vapor.
Do not take internally.
In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

 **POISON** 
First Aid Treatment—Antidote

If swallowed: Make patient vomit immediately by putting finger down throat or by giving warm mustard water or salt water freely.
General: Keep patient warm; if conscious, give black coffee. Call physician. Do not give Adrenalin.

ETHYLENEDIAMINE—Same label as MORPHOLINE

ETHYLENE DIBROMIDE

WARNING! VAPOR HARMFUL
ABSORBED THROUGH SKIN

Avoid breathing vapor.
Avoid contact with skin, eyes, and clothing.
In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing and air shoes thoroughly before re-use.

ETHYLENE DICHLORIDE

**WARNING! FLAMMABLE
VAPOR HARMFUL**

Keep away from heat and open flame.
Keep container closed.
Use only with adequate ventilation.
Avoid prolonged or repeated breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

MCA Chemical Safety Data Sheet available

ETHYLENE GLYCOL MONOMETHYL ETHER

Same label as CYCLOHEXANOL

ETHYL ETHER

**DANGER! EXTREMELY FLAMMABLE
HIGHLY VOLATILE
TENDS TO FORM EXPLOSIVE PEROXIDES
ESPECIALLY WHEN ANHYDROUS**

Keep away from heat, sparks, and open flame.
Keep container tightly closed.
Do not allow to evaporate to near dryness. Addition of water or appropriate reducing agents will lessen peroxide formation.

MCA Chemical Safety Data Sheet available

ETHYL FORMATE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.

2-ETHYLHEXANOL—Same label as iso-AMYL ACETATE

2-ETHYLHEXYL ACETATE— Same label as iso-AMYL ACETATE

ETHYL METHACRYLATE MONOMER

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid contact with skin, eyes, and clothing.

FORMALDEHYDE SOLUTION

**WARNING! CAUSES IRRITATION OF SKIN, EYES, NOSE
AND THROAT**

Avoid prolonged or repeated contact.
Avoid prolonged breathing of vapor.
Use with adequate ventilation.



POISON



First Aid Treatment—Antidote

Call a physician at once

If swallowed: Give milk freely, or 1 glassful of water containing 1 tablespoonful of ammonium acetate. Produce vomiting with a pint or more of warm salt water (1 cupful per quart) or warm soapy water. Repeat 3 times. Follow with milk and raw eggs.

MCA Chemical Safety Data Sheet available

FORMIC ACID—Same label as **HYDROCHLORIC ACID**

GLYCOL DIACETATE—
Same label as **iso-AMYL ACETATE**

GLYCOL DIFORMATE—
Same label as **iso-AMYL ACETATE**

HEPTANOL-2—Same label as **iso-AMYL ACETATE**

HEXANOL—Same label as **iso-AMYL ACETATE**

HYDROCHLORIC ACID

WARNING! CAUSES BURNS

Avoid contact with skin and eyes.

Avoid breathing vapor.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

HYDROCYANIC ACID

DANGER! POISON GAS

Do not breathe gas.

Avoid contact with skin.

Do not drop container.

Keep cool and away from open flame.



POISON



First Aid Treatment—Antidote

(Use same first aid treatment as recommended for **CYANIDES, INORGANIC**)

HYDROFLUORIC ACID, ANHYDROUS

**DANGER! EXTREMELY HAZARDOUS LIQUID AND VAPOR
CAUSES SEVERE BURNS WHICH MAY NOT BE
IMMEDIATELY PAINFUL OR VISIBLE**

Do not get in eyes, on skin, on clothing.

Do not breathe vapor.

Store out of sun and away from direct heat.

UNLOAD ONLY IN ACCORDANCE WITH PRACTICE RECOMMENDED IN MANUFACTURING CHEMISTS' ASSOCIATION MANUAL H-10. Read also MCA Chemical Safety Data Sheet SD-25. Copies furnished on request.

First Aid in Case of Contact or Suspicion of Contact.

Always have on hand a supply of magnesia paste (magnesium oxide and glycerin).

Immediately flush skin (until whiteness disappears) and eyes (for at least 15 minutes) with plenty of water, paying particular attention to skin under nails. Apply magnesia paste. **Get medical attention.** Remove and wash clothing before re-use.

MCA Chemical Safety Data Sheet available

HYDROFLUORIC ACID, AQUEOUS

**DANGER! HAZARDOUS LIQUID AND VAPOR
CAUSES SEVERE BURNS WHICH MAY NOT BE
IMMEDIATELY PAINFUL OR VISIBLE**

Balance of warning label same as for **HYDROFLUORIC ACID, ANHYDROUS**.

MCA Chemical Safety Data Sheet available

HYDROGEN PEROXIDE (stronger than 7.4% and not exceeding 50%)

CAUTION! STRONG OXIDANT

Avoid contact with skin and eyes—wear rubber gloves and goggles.

Avoid contact with combustible materials. Drying of this concentrated product on clothing or other combustible materials may cause fire.

In case of contact, immediately flush with plenty of water for at least 15 minutes; for eyes, get medical attention.

Avoid contamination from any source, including metals, dust, etc. Such contamination may cause rapid decomposition, generation of large quantities of oxygen gas, and high pressures.

*Store in original closed container.

*Be sure that the container vent is working satisfactorily.

*Do not add any other product to this container.

*When empty, rinse thoroughly with clean water.

HYDROGEN PEROXIDE (7.4% or 25 volume)

CAUTION! STRONG OXIDANT

Avoid contact with skin and eyes—wear rubber gloves and goggles.

Avoid contamination from any source, including metals, dust, etc. Such contamination may cause rapid decomposition, generation of large quantities of oxygen gas, and high pressures.

*Store in original closed container.

*Be sure that the container vent is working satisfactorily.

*Do not add any other product to this container.

*When empty, rinse thoroughly with clean water.

*Addition to "Container Handling and Storage," p. 18.

HYDROGEN SULFIDE

DANGER! POISON LIQUID AND GAS UNDER PRESSURE FLAMMABLE

BEFORE USING, READ M.C.A. CHEMICAL SAFETY DATA SHEET SD-36

Do not breathe gas.

Keep away from heat and open flame—may form explosive mixture with air.

NOTE: This gas deadens the sense of smell.

Do not depend on odor to detect presence of gas.



POISON

First Aid Treatment—Antidote

Carry patient to fresh air.

If patient has stopped breathing, apply artificial respiration immediately.

Keep patient warm.

Call physician.

MCA Chemical Safety Data Sheet available

LEAD ACETATE

WARNING! HARMFUL DUST

Avoid breathing dust. Wear dust mask approved by U. S. Bureau of Mines for this purpose.

Wash thoroughly before eating or smoking.

Keep away from feed or food products.

LEAD MONOXIDE (LITHARGE)— Same label as LEAD ACETATE

MALEIC ANHYDRIDE

WARNING! CAUSES BURNS

Avoid contact with skin, eyes, and clothing.

Avoid exposure to concentrated vapor.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

MERCURIC CHLORIDE (MERCURY BICHLORIDE)

DANGER! MAY BE FATAL IF SWALLOWED

Do not breathe dust.

Keep away from feed or food products.

Wash thoroughly before eating or smoking.

Use fresh clothing daily. Take hot shower after work using plenty of soap.



MESITYL OXIDE—Same label as iso-AMYL ACETATE

METHANOL

**DANGER! FLAMMABLE
VAPOR HARMFUL
MAY BE FATAL IF SWALLOWED
CANNOT BE MADE NON-POISONOUS**



First Aid Treatment—Antidote

If swallowed: Give a tablespoonful of salt in a glass of warm water and repeat until vomit fluid is clear. Give two teaspoonfuls of baking soda in a glass of water. Have patient lie down and keep warm. Cover eyes to exclude light.
Call a physician.

If splashed in the eyes: Immediately flush with water for at least 15 minutes. Get medical attention.

For products containing methanol in proportion sufficient to create hazard because of methanol content, use same statements as above, with addition of:

CONTAINS OVER% OF METHANOL

The word "flammable" may be omitted from the label if the product has a flash point above 80°F.

MCA Chemical Safety Data Sheet available

METHYL AMYL ACETATE—

Same label as iso-AMYL ACETATE

METHYL AMYL ALCOHOL—

Same label as iso-AMYL ACETATE

METHYL n-AMYL KETONE—

Same label as iso-AMYL ACETATE

METHYL BROMIDE

**DANGER! VAPOR EXTREMELY HAZARDOUS
HIGHLY VOLATILE
CAUSES BURNS**

Do not breathe vapor.

Do not get in eyes, on skin, on clothing.

Keep away from heat.

Keep container closed.



First Aid Treatment—Antidote

Remove to fresh air.

Use artificial respiration if breathing has stopped.

Get immediate medical attention.

Keep patient absolutely quiet and start oxygen inhalation through suitable equipment.

On Can Label Add:

IMPORTANT! The contents of this can are under pressure. Do not use ordinary can opener. Special handling equipment is available.

Contact for information on equipment
(NAME OF MANUFACTURER)
and proper use.

MCA Chemical Safety Data Sheet available

METHYL iso-BUTYL KETONE—
Same label as **METHYL ETHYL KETONE**

METHYL CYCLOHEXANOL—
Same label as **CYCLOHEXANOL**

METHYL CYCLOHEXANONE—
Same label as **CYCLOHEXANOL**

METHYLENE CHLORIDE

CAUTION!

Use with adequate ventilation.
Avoid prolonged or repeated breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

METHYL ETHYL KETONE

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

METHYL METHACRYLATE MONOMER

WARNING! FLAMMABLE
MAY CAUSE SKIN IRRITATION

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid contact with skin, eyes, and clothing.

METHYL MORPHOLINE—Same label as **MORPHOLINE**

METHYL iso-PROPYL KETONE—
Same label as **iso-AMYL ACETATE**

MIXED ACID (Sulfuric and Nitric)

DANGER! CAUSES SEVERE BURNS
VAPOR EXTREMELY HAZARDOUS
MAY CAUSE NITROUS GAS POISONING

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
In case of contact, immediately flush skin or eyes with plenty of
water for at least 15 minutes; for eyes, get medical attention.
Spillage may cause fire or liberate dangerous gas.

MONOCHLOROPHENOL—Same label as **PHENOL**

MORPHOLINE

WARNING! HAZARDOUS LIQUID AND VAPOR
MAY CAUSE SKIN IRRITATION

Use with adequate ventilation.
Avoid exposure to vapor.
Avoid contact with skin and eyes.

alpha-NAPHTHYLAMINE (containing 5% beta-
NAPHTHYLAMINE)—
Same label as **beta-NAPHTHYLAMINE**

b 1a-NAPHTHYLAMINE

**WARNING! HARMFUL DUST AND VAPOR
REPEATED ABSORPTION MAY RESULT IN
BLADDER TUMORS**

Avoid breathing dust or vapor.
Avoid contact with skin.
Do not take internally.

MCA Chemical Safety Data Sheet available

NITRIC ACID

**DANGER! CAUSES SEVERE BURNS
VAPOR EXTREMELY HAZARDOUS
MAY CAUSE NITROUS GAS POISONING**

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
In case of contact, immediately flush skin or eyes with plenty of
water for at least 15 minutes; get medical attention.
Spillage may cause fire or liberate dangerous gas.

MCA Chemical Safety Data Sheet available

NITROANILINE (meta or para)

WARNING! ABSORBED THROUGH SKIN

Avoid contact with skin, eyes, and clothing.
Avoid breathing dust.
In case of contact, immediately flush skin or eyes with plenty
of water for at least 15 minutes; for eyes, get medical attention.
Wash clothing before re-use.

**m 1a-NITRO-para-ANISIDINE—
Same label as NITROANILINE (meta or para)**

NITROBENZENE—Same label as ANILINE

MCA Chemical Safety Data Sheet available

NITROGEN DIOXIDE

**DANGER! EXTREMELY HAZARDOUS LIQUID AND GAS
INHALATION MAY CAUSE DELAYED FATAL LUNG
INJURY**

**READ MANUFACTURER'S MANUAL FOR DETAILED HANDLING
INSTRUCTIONS**

Do not breathe gas.
Avoid contact with skin, eyes, and clothing.
Do not allow to mix with combustible materials.
In case of inhalation or suspicion of inhalation, remove at once
to fresh air and call a physician. Keep patient absolutely quiet
and start oxygen inhalation through suitable equipment.

NITROPHENOL (MONONITROPHENOL)

WARNING! MAY BE ABSORBED THROUGH SKIN

Avoid breathing dust.
Avoid contact with skin and eyes.
In case of contact, immediately wash skin with soap and plenty of
water; flush eyes with plenty of water for at least 15 minutes
and get medical attention.

**para-NITRO-ortho-TOLUIDINE—
Same label as NITROANILINE (meta or para)**

OLEUM (FUMING SULFURIC ACID)

DANGER! CAUSES SEVERE BURNS

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
In case of contact, immediately flush skin or eyes with plenty of
water for at least 15 minutes; for eyes, get medical attention.
Do not add water to contents while in a container because of
violent reaction.

OXALIC ACID

**WARNING! HARMFUL IF SWALLOWED
CAUSES SKIN IRRITATION**

Avoid breathing dust.
Avoid contact with skin and eyes.
Do not take internally.
Keep away from feed or food products.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

PARAFORMALDEHYDE

**WARNING! CAUSES IRRITATION OF SKIN, EYES, NOSE
AND THROAT**

Avoid prolonged or repeated contact.
Avoid breathing dust or prolonged breathing of vapor.
Use with adequate ventilation.

 **POISON** 
First Aid Treatment—Antidote

Call a physician at once.

If swallowed: Give milk freely, or 1 glassful of water containing 1 tablespoonful of ammonium acetate. Produce vomiting with a pint or more of warm salt water (1 cupful per quart) or warm soapy water. Repeat 3 times. Follow with milk and raw eggs.

MCA Chemical Safety Data Sheet available

PARALDEHYDE

CAUTION! VAPOR HARMFUL

Use only with adequate ventilation.
Avoid prolonged or repeated breathing of vapor.
Do not take internally.

Solidifies at about 54°F. (12°C.) and may break container.
Store in a moderately warm place.

PERCHLORETHYLENE—See TETRACHLOROETHYLENE

PERCHLORIC ACID SOLUTION

**DANGER! STRONG OXIDANT
CORROSIVE LIQUID
CONTACT WITH COMBUSTIBLE MATERIAL MAY
CAUSE FIRE OR EXPLOSION, ESPECIALLY IF HEATED**

Keep container closed and away from combustible material, dehydrating agents and heat.
In case of spillage, flush with plenty of water and remove contaminated articles.
In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

MCA Chemical Safety Data Sheet available

PETROLEUM NAPHTHAS AND SOLVENTS, INDUSTRIAL (For solvents having a flash point 20°F. or BELOW, Tagliabue Open Cup Method as specified by Inter- state Commerce Commission)

(NAME OF PRODUCT)

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

PETROLEUM NAPHTHAS AND SOLVENTS, INDUSTRIAL

(For solvents having a flash point ABOVE 20°F. but not above 80°F., Tagliabue Open Cup Method as specified by Interstate Commerce Commission)

(NAME OF PRODUCT)

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

PETROLEUM NAPHTHAS AND SOLVENTS, INDUSTRIAL

(For solvents having a flash point ABOVE 80°F., Tagliabue Open Cup Method as specified by Interstate Commerce Commission)

(NAME OF PRODUCT)

CAUTION!

Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

PHENETIDINE (ortho or para)—
Same label as ortho-ANISIDINE

PHENOL

**DANGER! RAPIDLY ABSORBED THROUGH SKIN
CAUSES SEVERE BURNS**

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
Do not take internally.
In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.



POISON



MCA Chemical Safety Data Sheet available

para-PHENYLENEDIAMINE

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid contact with skin and eyes.
Avoid breathing dust.

PHOSPHORIC ACID

CAUTION! CAUSES SKIN IRRITATION

Avoid contact with skin and eyes.
In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

PHOSPHORIC ANHYDRIDE

WARNING! CAUSES BURNS

Avoid contact with skin and eyes.
Wear rubber gloves and goggles.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Open carefully.
Do not add water to contents while in a container because of violent reaction.

MCA Chemical Safety Data Sheet available

PHOSPHORUS (For Wet Shipments)

DANGER! CAUSES SEVERE BURNS

Contents packed under water and will ignite if water is removed.
Do not get on skin or in eyes.
Wear heavy rubber gloves and goggles or face shield.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; keep skin area wet until medical attention is obtained.

Keep drum out of sun and away from heat.



MCA Chemical Safety Data Sheet available

PHOSPHORUS OXYCHLORIDE

DANGER! CAUSES SEVERE BURNS VAPOR EXTREMELY IRRITATING

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.
In case of spillage, flood carefully with LARGE VOLUME of water and provide adequate ventilation.
Do not add water to contents while in a container because of violent reaction.

*Do not open unless you have been properly instructed.
*Do not use this container for any other product.

MCA Chemical Safety Data Sheet available

*Addition to "Container Handling and Storage," p. 18.

PHOSPHORUS PENTACHLORIDE

WARNING! HAZARDOUS DUST CAUSES BURNS

Do not breathe dust.
Do not get on skin or in eyes.
Wear rubber gloves and goggles.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Do not add water to contents while in a container because of violent reaction.

*Open carefully.

PHOSPHORUS TRICHLORIDE

DANGER! CAUSES SEVERE BURNS VAPOR EXTREMELY IRRITATING CONTACT WITH WATER MAY CAUSE FLASH FIRE

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.
In case of spillage, flood carefully with LARGE VOLUME of water and provide adequate ventilation.
Do not add water to contents while in a container because of violent reaction and possible flash fire.

*Do not open unless you have been properly instructed.
*Do not clean or re-use this container.

MCA Chemical Safety Data Sheet available

*Addition to "Container Handling and Storage," p. 18.

POTASSIUM CHLORATE—
Same label as **SODIUM CHLORATE**

POTASSIUM HYDROXIDE—
Same label as **SODIUM HYDROXIDE**
MCA Chemical Safety Data Sheet available

iso-PROPYL ACETATE

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.
Avoid prolonged or repeated contact with skin.

PROPYLENE CHLOROHYDRIN—
Same label as **ETHYLENE CHLOROHYDRIN**

iso-PROPYL ETHER—Same label as **ETHYL ETHER**

PYRIDINE

WARNING! FLAMMABLE

Keep away from heat and open flame.
Keep container closed.
Use with adequate ventilation.
Avoid prolonged breathing of vapor.

SILVER NITRATE

WARNING! CAUSES BURNS

Do not get on skin or in eyes.
In case of contact with eyes, get medical attention.



POISON



SODIUM CHLORATE

WARNING! CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE

All clothing contaminated with chlorates is **DANGEROUSLY FLAMMABLE**. Remove and wash thoroughly with water.
Do not get on floor.
Spillage may cause fires with combustible material. Sweep up and remove immediately.
When not in use keep tightly closed in original metal container.
Keep away from fire.
Store separately from flammable material.

SODIUM CYANIDE—See **CYANIDES, INORGANIC**

MCA Chemical Safety Data Sheet available

SODIUM DICHROMATE

**WARNING! HARMFUL DUST
MAY CAUSE RASH OR EXTERNAL ULCERS**

Keep container closed.
Avoid contact with skin and eyes.
Avoid breathing dust or solution spray.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Wash clothing before re-use.
Use fresh clothing daily. Take hot shower after work using plenty of soap.

SODIUM FLUORIDE

WARNING! MAY BE FATAL IF INHALED OR SWALLOWED

Avoid breathing dust.
Wash thoroughly after handling.
Clean up spillage.

SODIUM FLUOSILICATE—
Same label as **SODIUM FLUORIDE**

SODIUM HYDROSULFITE

CAUTION! SUBJECT TO FIRE IF ALLOWED TO BECOME DAMP

Keep container tightly closed.
Use only dry, clean utensils in handling.
Store in a cool, dry place.

SODIUM HYDROXIDE (CAUSTIC SODA)

WARNING! CAUSES SEVERE BURNS TO SKIN AND EYES

Avoid contact with skin, eyes, and clothing.
Do not take internally.
When handling, wear goggles or face shield. While making solutions, add Sodium Hydroxide slowly to surface of solution to avoid violent spattering.
In case of contact, immediately flush skin with plenty of water and wash with vinegar; for eyes, flush with plenty of water for at least 15 minutes and get medical attention.

MCA Chemical Safety Data Sheet available

SODIUM ORTHOSILICATE—
Same label as **SODIUM HYDROXIDE**

SODIUM SESQUISILICATE—
Same label as **SODIUM HYDROXIDE**

SODIUM SULFHYDRATE—
Same label as **SODIUM SULFIDE**

SODIUM SULFIDE (Containing 35% or more combined water)

**DANGER! CONTACT WITH ACID LIBERATES POISONOUS GAS
BURNS SKIN AND EYES**

Avoid breathing dust.
Avoid contact with skin and eyes.
Keep container closed and away from acids, combustible material, and heat.
Sweep up spillage. Do not flush to sewer which may contain acid.

STYRENE MONOMER—Same label as CYCLOHEXANOL

SULFUR CHLORIDE

**WARNING! CAUSES BURNS
VAPOR IRRITATING**

Avoid contact with eyes, skin, and clothing.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Do not allow water to get into container.

SULFUR DICHLORIDE—
Same label as **SULFUR CHLORIDE**

SULFUR DIOXIDE

**WARNING! EXTREMELY IRRITATING GAS AND LIQUID
UNDER PRESSURE**

Avoid breathing gas.
Do not drop cylinder.
Do not allow cylinder temperature to reach 130°F.

SULFURIC ACID

DANGER! CAUSES SEVERE BURNS

Do not get in eyes, on skin, on clothing.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

Do not add water to contents while in a container because of violent reaction.

MCA Chemical Safety Data Sheet available

SULFURYL CHLORIDE—

Same label as **SULFUR CHLORIDE**

TAR ACIDS—Same label as CRESOL

TETRACHLOROETHANE

DANGER! VAPOR EXTREMELY HAZARDOUS

Use only in completely enclosed system.

Do not breathe vapor.

Do not get in eyes, on skin on clothing.

Do not take internally.



POISON



MCA Chemical Safety Data Sheet available

TETRACHLOROETHYLENE (PERCHLOROETHYLENE)

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.

Avoid prolonged or repeated breathing of vapor.

Avoid prolonged or repeated contact with skin.

Do not take internally.

MCA Chemical Safety Data Sheet available

TETRACHLOROPHENOL—

Same label as **PENTACHLOROPHENOL**

TETRAETHYLENEPENTAMINE—

Same label as **MORPHOLINE**

THIONYL CHLORIDE—

Same label as **SULFUR CHLORIDE**

TOLUENE (TOLUOL)

WARNING! FLAMMABLE

Keep away from heat and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid prolonged breathing of vapor.

Avoid prolonged or repeated contact with skin.

TOLUIDINE (ortho or meta)

**WARNING! HAZARDOUS LIQUID AND VAPOR
RAPIDLY ABSORBED THROUGH SKIN**

Avoid contact with skin, eyes, and clothing.

Avoid breathing vapor.

Use only with adequate ventilation.

In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

para-TOLUIDINE

**WARNING! HAZARDOUS SOLID AND VAPOR
RAPIDLY ABSORBED THROUGH SKIN**

Avoid contact with skin, eyes, and clothing.

Do not breathe vapor.

Use only with adequate ventilation.

In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

TRICHLOROETHYLENE

WARNING! VAPOR HARMFUL

Use only with adequate ventilation.

Avoid prolonged or repeated breathing of vapor.

Avoid prolonged or repeated contact with skin.

Do not take internally.

MCA Chemical Safety Data Sheet available

TRICHLOROPHENOL (all isomers)

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid prolonged or repeated contact with skin.

TRIETHYLENETETRAMINE— Same label as MORPHOLINE

TRIMETHYLCYCLOHEXANOL— Same label as iso-AMYL ACETATE

VINYL CHLORIDE

DANGER! EXTREMELY FLAMMABLE

Keep away from heat, sparks, and open flame.

Keep container closed.

Use with adequate ventilation.

Avoid prolonged breathing of vapor.

XYLENE (XYLOL)—Same label as TOLUENE

XYLIDINES—Same label as meta-TOLUIDINE

ZINC CHLORIDE (Granular, Fused, or Solution)—

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid prolonged or repeated contact with skin.

PART III

Illustrative Warning Labels for Economic Poisons

This section contains suggested warning labels for a group of hazardous chemicals commonly used as or in the formulation of insecticides, fungicides, rodenticides, and herbicides. Wording is based on the principles set forth in Part I. Careful study should be given to Part I and the special considerations discussed below before any suggested wording is used for an economic poison product. These labels have been selected for illustrative purposes only, and omission of a label for any particular product should not be interpreted to mean that such product requires no label warning.

The principles in Part I apply primarily to the labeling of hazardous chemicals intended for industrial consumption, some of which are also used as, or for processing into forms of economic poisons intended for home, farm, or other ultimate consumer use. Labels for such packages of economic poisons require consideration of additional factors since they will be handled, stored, and used differently from those intended for industrial consumption. Also, economic poison labels should include warnings not only of hazards to man, but to domestic animals, useful invertebrates, and useful vegetation.

A producer or distributor of an economic poison should be familiar with all pertinent laws governing economic poisons, including those of the federal government, states, territories, and other political subdivisions; and with any applicable statutes, ordinances, or regulations affecting labeling in general. *Statements suggested in Part III should be used in addition to or in combination with any other wording required by law.*

Many economic poisons are marketed in a large variety of formulations in which the ingredients may be obtained in various concentrations or combinations. Suggested wording in this section applies to the commercial chemical or, where indicated, to a definite concentration range of the chemical. *Products formulated from two or more constituents may have properties that vary in kind or degree from those of the constituents; any warning statement should be based on the properties of the finished formulation.*

It has not been practical to propose statements for all special packages, extraordinary uses or other unusual circumstances surrounding individual products. Each statement is designed for the normal and customary use of a particular product when packaged for sale as an economic poison. *Each labeler of an economic poison should recog-*

nize that his product must be treated individually, in the light of its own characteristics, including, among others, concentration and grade, package sizes and types, channels of distribution, normal storage and transportation conditions, intended consumers, and intended uses.

The label statements in Part III are confined mainly to measures necessary to prevent injury to man and domestic animals arising out of the ordinary handling, storage or use of a product. Additional warnings may be indicated by the particular form or manner in which a product is sold or the circumstances surrounding its use. There also may be other hazards to man or animals which can arise only from specific uses for which directions are given in the labeling. Frequently an economic poison may also be hazardous to useful invertebrates or useful vegetation, or by reason of residues on edible vegetation. The omission of reference to any of these hazards from any statement in Part III does not imply that they may be disregarded. As a rule such warnings are properly incorporated in directions for use. *Even though they may be separated from the principal warnings they should, nevertheless, be prominently displayed.* Examples:

Do not apply within.....days of harvest
Avoid use during flowering and pollination periods
Do not consume fruits or vegetables until residue is removed
Do not use this powder on drainboards, shelves or other places where contact with food is likely
Do not allow spray to come in contact with garden plants

The Federal Insecticide, Fungicide and Rodenticide Act and some state Acts require the word "POISON" and the skull and crossbones on all products deemed "highly toxic to man." The definition of "Poison" in Part I of this Manual is essentially the same as the definition of "highly toxic to man" in the regulations under the federal act. The products in this section have been classified according to the "highly toxic to man" definition.

The term "Poison" has been commonly understood by the layman to mean toxic by oral intake only. The controlling definition considers oral intake, inhalation, and skin absorption. To clarify the use of the term, labels on packages of economic poisons "highly toxic to man" should specify the modes of entry into the body by which the product is poisonous. Examples:

POISONOUS IF SWALLOWED
POISONOUS BY SKIN CONTACT
MAY BE POISONOUS IF INHALED
POISONOUS IF SWALLOWED OR BY ABSORPTION THROUGH SKIN

It is not intended that the word "POISON" should take the place of a signal word. Any one of the signal words "DANGER," "WARNING" or "CAUTION" may be applicable even when a product is poisonous. The selection of the appropriate word will depend not only on the degree of toxicity of the product, but more particularly on the risk of injury presented under normal conditions of handling or use. The word "POISON" (or its derivatives) should be reserved exclusively for those products coming within the definitions of the federal act as "highly toxic to man" except where it may be required by other laws or regulations. For products that are less toxic, statements like the following are preferred:

MAY BE FATAL IF SWALLOWED
HARMFUL IF INHALED OR SWALLOWED

First aid treatment is given for a few products only. The Federal Insecticide, Fungicide and Rodenticide Act and some state Acts require a statement of an antidote for the economic poison on all products deemed "highly toxic to man."* Such information may be desirable on other products. Where "clothing" is mentioned in first aid instructions, it should be understood to mean all articles of clothing, including shoes, garters, and other accessories. Shoes are specifically named in some instructions, because of special hazards arising from absorption of the chemical by leather.

An important principle of good labeling is to avoid the promiscuous use of precautionary statements since they tend to detract from the prominence and importance which should be given to the vital warnings. Common sense indicates certain fundamental precautions in the handling of nearly all household and farm supplies and a label statement cannot substitute for it. Phrases such as "Keep away from children and domestic animals" and "Avoid contamination of food" should be necessary only where the inherently high toxicity of the product, special use of the material, size of the package, likelihood of mistaken identity, or actual use experience strongly indicate their need.

*Other states while not following the federal act on the definition of "highly toxic to man" require the word "POISON" and the skull and crossbones and antidote on all economic poisons which fall within the term "poison" as defined in their poison laws.

ACRYLONITRILE

**DANGER! POISONOUS IF INHALED
FLAMMABLE**

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
Keep away from heat and open flame.
Keep container closed.



Note: Directions for Use should include appropriate gas mask protection.

ANTU—See alpha-NAPHTHYLTHIOUREA

ARSENICALS, LIQUID

1. Containing 2% or more as metallic arsenic:

WARNING! POISONOUS IF SWALLOWED

Avoid contact with skin, eyes, and clothing.
Do not breathe spray mist; wear respirator.
In case of contact, wash thoroughly.



Note: Label should bear reference to the avoidance of spray drift to valuable plants and restriction of animals from treated areas.

2. Containing less than 2% as metallic arsenic:

WARNING! MAY BE FATAL IF SWALLOWED

Avoid contact with skin, eyes, and clothing.
Avoid breathing spray mist.
Keep away from food and out of the reach of children and domestic animals.
In case of contact, wash thoroughly.

BARIUM FLUOSILICATE

CAUTION! MAY BE FATAL IF SWALLOWED

Avoid breathing dust or spray mist.
Wash thoroughly after handling.

Note: Directions for Use should bear a statement relative to spray residues.

BENZENE HEXACHLORIDE

1. For benzene hexachloride and dry formulations containing 25% or more of benzene hexachloride:

**WARNING! HARMFUL VAPOR AND DUST
MAY CAUSE IRRITATION OF SKIN AND EYES
MAY BE ABSORBED THROUGH THE SKIN**

Avoid inhaling dust, vapor, or spray mist.
Avoid contact with skin and eyes.
Avoid contamination of foodstuffs.
In case of contact, wash skin with plenty of soap and water; for eyes, flush with water and get medical attention.

2. For dry formulations containing less than 25% benzene hexachloride:

CAUTION!

Avoid inhaling dust, vapor, or spray mist.
Avoid contact with skin.
Avoid contamination of foodstuffs.

3. For solutions or emulsions of benzene hexachloride:

Since various solvents which differ in toxic properties may be used, labels should bear the precautionary information covering the combined hazards of benzene hexachloride and solvent.

Note: If the product is to be applied to plants that are used as food, a warning should be included in the Directions for Use to the effect that the material should not be applied where there is danger of a toxic residue, or residual odor or taste, remaining on foodstuffs or edible portions of treated crops.

CADMIUM SALTS

Toxicity varies with the different products, hence, each product must be considered on its own properties.

CALCIUM ARSENATE—Same label as LEAD ARSENATE

CALCIUM CYANIDE

DANGER! LIBERATES POISONOUS GAS

Avoid breathing gas or dust.
Avoid contact with skin.
Keep away from acids.
Keep container tightly closed and dry.



Note: Directions for Indoor Use should include appropriate gas mask protection.

CARBON DISULFIDE

DANGER! EXTREMELY FLAMMABLE VAPOR HARMFUL HIGHLY VOLATILE

Keep away from fire, sparks, or heated surfaces.
Store in cool place and keep container closed.
Avoid breathing vapor.
Avoid contact with skin and eyes.



Note: Directions for Use should provide for adequate ventilation during the time when product is being handled.

CARBON TETRACHLORIDE

WARNING! VAPOR HARMFUL

Avoid breathing vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

Note: Directions for Use should provide for adequate ventilation during the time when product is being handled.

CHLOROFORM

WARNING! VAPOR HARMFUL

Avoid breathing vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

Note: Directions for Use should provide for adequate ventilation during the time when product is being handled.

CHLOROPHENOL (MONOCHLOROPHENOL)— Same label as PHENOL

CHLOROPICRIN

DANGER! POISONOUS IF INHALED

Do not breathe vapor.
Do not get in eyes, on skin, on clothing.
In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.
Remove and wash clothing before re-use.



Note: Directions for Use should include appropriate gas mask protection.

COAL TAR CREOSOTE

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid prolonged or repeated contact with skin.
Avoid prolonged breathing of vapor.

CRESOLS (CRESYLIC ACID)

**DANGER! MAY BE FATAL IF SWALLOWED OR BY
ABSORPTION THROUGH SKIN
CAUSES SEVERE BURNS**

Do not get in eyes, on skin, on clothing.

Do not breathe vapor.

In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.

CYANIDES, INORGANIC (Excluding HYDROCYANIC ACID and CALCIUM CYANIDE)

(NAME OF PRODUCT)

DANGER! CONTACT WITH ACID LIBERATES POISONOUS GAS

Avoid breathing gas or dust.

Avoid contact with skin.

Keep container closed and store in a dry place.



POISON
(Antidote)



Note: Directions for Indoor Use should include appropriate gas mask protection.

ortho-DICHLOROBENZENE

CAUTION!

Avoid prolonged breathing of vapor.

Avoid prolonged or repeated contact with skin.

DICHLORO DIPHENYL TRICHLOROETHANE (DDT)

1. For straight DDT Technical:

**CAUTION! DDT IS TOXIC AND WHEN IN SOLUTION CAN BE
ABSORBED THROUGH THE SKIN**

Avoid inhaling dust and spray mist.

Avoid contamination of foodstuffs.

2. For Petroleum Oil Solutions containing not more than 25% DDT
Technical:

**CAUTION! REPEATED OR PROLONGED CONTACT WITH SKIN
CAN CAUSE TOXIC SYMPTOMS**

Avoid excessive inhalation and skin contact.

In case of spillage on the skin, wash with soap and water.

Avoid contamination of foodstuffs.

Do not use on household pets or humans.

3. For Petroleum Oil Solutions containing more than 25% DDT
Technical:

CAUTION! CONTACT WITH SKIN CAN CAUSE TOXIC SYMPTOMS

Avoid inhalation and skin contact.

In case of spillage on the skin, wash immediately with soap and water.

Avoid contamination of foodstuffs.

Do not use on household pets or humans.

4. For Emulsions containing not more than 25% DDT Technical:

Same as (2) above.

5. For Emulsions containing more than 25% DDT Technical:

Same as (3) above.

6. For Combustible Mixtures:

Same as above, and add:

CAUTION!

Do not spray into or near fire or open flame.

Do not smoke while spraying.

7. For Dust and Powder Formulations:

CAUTION!

Avoid excessive inhalation.

Avoid contamination of foodstuffs.

Note: If the preparation contains other hazardous ingredients or solvents, appropriate additional cautions must be added to the foregoing.

DICHLOROETHYL ETHER

WARNING! VAPOR HARMFUL

Avoid prolonged or repeated breathing of vapor.
Avoid prolonged or repeated contact with skin.
Do not take internally.

Note: Directions for Use should provide for adequate ventilation during the time when the product is being handled.

2,4-DICHLOROPHENOL

WARNING! MAY CAUSE BURNS

Do not get in eyes, on skin, on clothing.
Do not breathe vapor.
Do not take internally.
In case of contact, immediately flush skin with plenty of water for at least 15 minutes; for eyes, get medical attention. Remove and wash clothing before re-use.

2,4-DICHLOROPHENOXYACETIC ACID and DERIVATIVES

1. 2,4-D Acid, 2,4-D Sodium Salt (When for mixing purposes only):

CAUTION! IRRITATING DUST

Avoid breathing dust.
Avoid contact with skin and eyes.
Do not use containers or equipment for handling other agricultural chemicals.
Store away from other materials.

2. Dry formulations of above containing 20% or more equivalent 2,4-D Acid (For consumer use):

CAUTION! IRRITATING DUST

Avoid breathing dust.
Avoid contact with skin and eyes.
3. Dry formulations containing less than 20% 2,4-D or derivatives thereof:

No health hazard warnings required.

4. Liquid formulations of 2,4-D Salts or Esters:

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid contact with eyes, skin, and clothing.

Note: All weed killer preparations containing 2,4-D or its derivatives should carry adequate warning statements regarding dangers of spray or dust drift to desirable plants, the necessity of using other equipment for handling and applying other agricultural chemicals, and avoiding contamination of domestic or irrigation water supply.

ETHYL BROMIDE

WARNING! VAPOR HARMFUL

Avoid prolonged breathing of vapor.
Keep container closed, out of sun, and away from heat.

Note: Directions for Use should provide for adequate ventilation during the time when the product is being handled.

ETHYLENE DIBROMIDE

**WARNING! VAPOR HARMFUL
ABSORBED THROUGH SKIN**

Avoid breathing vapor.

Avoid contact with skin, eyes, and clothing.

Do not take internally.

In case of contact, immediately remove all contaminated clothing, including shoes, and wash skin with soap and plenty of water; flush eyes with water for at least 15 minutes and get medical attention. Wash clothing and air shoes thoroughly before re-use.

Note: Directions for Use should provide for adequate ventilation during the time when the product is being handled.

ETHYLENE DICHLORIDE

**WARNING! FLAMMABLE
VAPOR HARMFUL**

Keep away from heat and open flame.

Keep containers closed.

Avoid breathing vapor.

Avoid prolonged or repeated contact with skin.

Do not take internally.

Note: Directions for Use should provide for adequate ventilation during the time when the product is being handled.

ETHYL MERCURY CHLORIDE (any effective concentration)

DANGER! POISONOUS SOLID AND VAPOR

Avoid contact with skin, eyes, and clothing.

Avoid breathing vapor or dust.

In case of contact, immediately wash skin with plenty of soap and water; flush eyes with water for at least 15 minutes and get medical attention.

Wear fresh clothing daily.



POISON
(Antidote)



Note: Directions for Use should include detailed instructions for safe handling of this product and materials treated with it.

ETHYL MERCURY PHOSPHATE—

Same label as ETHYL MERCURY CHLORIDE

ETHYL MERCURY para-TOLUENE SULFONANILIDE

Same label as ETHYL MERCURY CHLORIDE

FERRIC DIMETHYLDITHIOCARBAMATE (any effective concentration)

**CAUTION! MAY CAUSE IRRITATION OF NOSE, THROAT,
AND SKIN**

Avoid breathing dust or spray mist.

Avoid contact with skin, eyes, and clothing.

In case of contact, flush with plenty of water; for eyes, get medical attention.

*Keep away from fire or sparks.

*For dust mixtures 50% and over, and for lower concentrations if diluent is combustible.

FORMALDEHYDE SOLUTIONS (5% or over)

**WARNING! CAUSES IRRITATION OF SKIN, EYES, NOSE,
AND THROAT**

Avoid prolonged or repeated contact.

Avoid prolonged breathing of vapor.

Use with adequate ventilation.



POISON
(Antidote)



HYDROCYANIC ACID, LIQUID

DANGER! POISON GAS

Do not breathe gas.

Avoid contact with skin.

Do not drop container.

Keep cool and away from open flame.



POISON
(Antidote)



Note: Directions for Use should include appropriate gas mask protection.

HYDROXYMERCURICHLOROPHENOL (any effective
concentration)

CAUTION! POISONOUS IF INHALED OR SWALLOWED

Avoid breathing dust.

Avoid contact with skin and eyes.

In case of contact, immediately wash skin with plenty of soap
and water; flush eyes with water for at least 15 minutes and get
medical attention.



Note: Directions for Use should include detailed instructions for safe handling of this
product and materials treated with it.

HYDROXYMERCURICRESOL—
Same label as **HYDROXYMERCURICHLOROPHENOL**

HYDROXYMERCURINITROPHENOL—
Same label as **HYDROXYMERCURICHLOROPHENOL**

LEAD ARSENATE

CAUTION! POISONOUS IF INHALED OR SWALLOWED

Avoid breathing dust or spray mist.

Wash thoroughly after handling.



Note: Directions for Use should bear a statement relative to spray residues.

LONDON PURPLE—Same label as **LEAD ARSENATE**

MAGNESIUM ARSENATE—
Same label as **LEAD ARSENATE**

METHYL BROMIDE

DANGER! VAPOR EXTREMELY HAZARDOUS
HIGHLY VOLATILE
CAUSES BURNS

Do not breathe vapor.

Do not get on skin, in eyes, on clothing.

Keep away from heat.



IMPORTANT!

The contents of this can are under pressure. Do not use ordinary
can opener. Special handling equipment is available.

Contact.....for information on equip-
(NAME OF MANUFACTURER)
ment and proper use.

Note: Directions for Use should provide for adequate ventilation during the time
when the product is being handled.

METHYLENE CHLORIDE

CAUTION!

Use with adequate ventilation.

Avoid prolonged or repeated breathing of vapor.

Avoid prolonged or repeated contact with skin.

Do not take internally.

MONOCHLOROPHENOL—See **CHLOROPHENOL**

alpha-NAPHTHYLTHIOUREA (ANTU) (20% or more)

WARNING! POISONOUS IF INHALED OR SWALLOWED

Do not breathe dust.

Store away from and avoid contamination of feed and food.

Keep children, pets and livestock away, especially from baited
or dusted areas.



NICOTINE SULFATE SOLUTION (40%)

**DANGER! POISONOUS IF SWALLOWED
ABSORBED THROUGH SKIN**

Do not get in eyes, on skin, on clothing.
Wear protective clothing and goggles when handling.
Do not breathe spray mist; wear respirator.
Store away from food and out of reach of children and domestic animals.
Wash thoroughly after handling and before eating or smoking.



POISON
(Antidote)



NICOTINE DUSTS (5% or under)

CAUTION! HARMFUL IF INHALED OR SWALLOWED

Avoid excessive exposure to dust.
Avoid contact with skin and eyes.
Wash thoroughly after handling.
Store away from feed and food products.

Note: The percentage and form of nicotine present may call for poison labeling under the requirements of various state laws.

PARIS GREEN—Same label as LEAD ARSENATE

PENTACHLOROPHENOL

WARNING! HARMFUL DUST

Avoid breathing dust.
Avoid contact with skin, eyes, and clothing.
Do not take internally.
In case of contact with dry material or its solution, immediately wash skin with soap and plenty of water; for eyes, flush with plenty of water for at least 15 minutes and get medical attention.

PENTACHLOROPHENOL (oil solutions)

**WARNING! CAUSES SKIN IRRITATION
ABSORBED THROUGH SKIN**

Avoid breathing vapor.
Avoid contact with skin, eyes, and clothing.
Do not take internally.
In case of contact, immediately wash skin with soap and plenty of warm water; for eyes, flush with plenty of water for at least 15 minutes and get medical attention. Remove and wash clothing before re-use.

PHENOL

**DANGER! MAY BE FATAL IF SWALLOWED OR BY ABSORPTION
THROUGH SKIN
CAUSES SEVERE BURNS**

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor.
In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.



POISON
(Antidote)



PHENOTHIAZINE

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid contact with skin and eyes.
Avoid breathing dust.
In case of contact, wash skin with soap and plenty of water; flush eyes with water and get medical attention.

PHENYL MERCURY OLEATE (over 0.1% in oil or in oil-water emulsion)

**WARNING! POISONOUS IF SWALLOWED
IRRITATING TO SKIN**

Do not get in eyes, on skin, on clothing.

Do not breathe spray mist.

In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention. Wash clothing before re-use.



Note: Directions for Use should include detailed instructions for safe handling of this product and materials treated with it.

SODIUM CHLORATE

**WARNING! CONTACT WITH COMBUSTIBLE MATERIAL MAY
CAUSE FIRE**

All clothing contaminated with chlorates is DANGEROUSLY FLAMMABLE. Remove and wash thoroughly with water.

Do not get on floor.

Spillage may cause fires with combustible material. Sweep up and remove immediately.

When not in use keep tightly closed in original metal container.

Keep away from fire.

Store separately from flammable material.

Keep animals off freshly treated areas.

SODIUM FLUORIDE

WARNING! MAY BE FATAL IF INHALED OR SWALLOWED

Avoid breathing dust.

Sweep up spillage.

Wash thoroughly after handling.

**SODIUM FLUOSILICATE—
Same label as SODIUM FLUORIDE**

STRYCHNINE AND STRYCHNINE SALTS (any effective concentration)

DANGER! POISONOUS IF SWALLOWED

Do not breathe dust.

Keep away from children, domestic animals, and foodstuffs.



**TETRACHLOROPHENOL—
Same label as PENTACHLOROPHENOL**

TETRAETHYL PYROPHOSPHATE (1% and over)

**DANGER! EXTREMELY HAZARDOUS IF SWALLOWED, INHALED
OR ABSORBED THROUGH SKIN OR EYES**

BEFORE USING see.....Company technical bulletin No.for safe handling instructions.

Do not get in eyes, on skin, on clothing.

Wear protective clothing and goggles.

Do not breathe spray or mist; wear mask or respirator approved by U.S. Bureau of Mines for this service.

Keep away from feed or food products.

Wash hands, arms and face after handling and before eating or smoking.

*In case of contact, immediately remove all contaminated clothing, including shoes, and flush skin or eyes thoroughly with plenty of water. Wash clothing before re-use.



Workers showing symptoms of shortness of breath, headache, tightness of chest or blurred vision should be removed from the job and immediately be given medical attention.

(Antidote)

*If this statement is used in the ANTIDOTE section to provide instructions for external first aid treatment it will not be necessary to show it in this location.

Note: Aerosols may require additional precautionary information.

TETRAMETHYLTHIURAMDISULFIDE (any effective concentration)

CAUTION! MAY CAUSE IRRITATION OF NOSE, THROAT AND SKIN

MAY BE HARMFUL IF INHALED OR SWALLOWED

Do not breathe dust or spray mist.

Avoid contact with eyes, skin or clothing.

In case of contact, flush with plenty of water; for eyes, get medical attention.

Note: Directions for Use should include instructions for the safe handling of this product and materials treated with it.

THIOCYANATES

Because of the differences in properties of members of this group, each product containing them must be reviewed individually.

TRICHLOROPHENOL (all isomers)

CAUTION! MAY CAUSE SKIN IRRITATION

Avoid prolonged or repeated contact with skin.

Do not take internally.

ZINC ARSENATE—Same label as LEAD ARSENATE

ZINC ARSENITE—Same label as LEAD ARSENATE

ZINC DIMETHYLDITHIOCARBAMATE (any effective concentration)

CAUTION! MAY CAUSE IRRITATION OF NOSE, THROAT AND SKIN

MAY BE HARMFUL IF INHALED OR SWALLOWED

Avoid breathing dust or spray mist.

Avoid contact with skin, eyes, and clothing.

In case of contact, flush with plenty of water; for eyes, get medical attention.

*Keep away from fire or sparks.

*For dust mixtures 50% and over, and for lower concentrations if diluent is combustible.